



High Level Design Document

Introduction

This High Level Design (HLD) document outlines the architecture and core components for **TableauTrend - Tableau Sales Trend Analyzer**. The project aims to deliver a Tableau dashboard for analyzing and visualizing sales trends over time using line and area charts, supporting educational use cases.

System Architecture Overview

Architecture Description:

TableauTrend is a data analytics solution comprising three main modules: Data Source, Data Preparation, and Tableau Dashboard. Data is ingested, processed, and visualized within Tableau.

Module	Description
Data Source	Raw sales data (CSV, Excel, or database)
Data Preparation	Data cleaning, transformation, and aggregation (within Tableau)
Tableau Dashboard	Interactive visualization of sales trends (line/area charts)

Component Interactions

Step	Source Component	Target Component	Interaction Description
1	Data Source	Data Preparation	Import raw sales data into Tableau
2	Data Preparation	Tableau Dashboard	Clean, transform, and aggregate data for visualization
3	Tableau Dashboard	End User	Display interactive sales trend charts

Sequence Summary:

- Sales data is imported into Tableau.
 - Data is prepared using Tableau's built-in tools.
 - The dashboard visualizes trends and provides user interactivity.
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Data Flow Overview

Data Flow	Description
Raw Data Ingestion	Sales data loaded into Tableau from source files/db
Data Transformation	Data cleaned and aggregated within Tableau
Visualization Rendering	Processed data visualized as line/area charts



Technology Stack

Layer/Component	Technology/Tool
Data Source	CSV, Excel, or Database
Data Analytics & ETL	Tableau (Prep/Workbook)
Visualization	Tableau Dashboard

Scalability & Reliability

- **Scalability:** Tableau supports moderate data volumes; for large datasets, use Tableau extracts and data source optimization.
- **Reliability:** Data integrity is maintained via Tableau's data connection and refresh features.
- **Security:** Access control managed through Tableau's user permissions.

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